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Epidemiologic Notes and Reports

Hepatitis B among Parenteral Drug Abusers — North Carolina

Since 1983, an increased incidence of hepatitis B (HB) has been observed in Durham County, North Carolina, primarily involving parenteral drug abusers (PDAs) and their sexual contacts. Eighty-six cases (including 50 cases among PDAs or their sexual contacts) were reported in 1985, compared with 24 cases in 1984 and eight in 1983. Of the 1985 patients, nine were hospitalized, and two died. Seventy-six patients who could be located were interviewed regarding risk factors for HB, and serum samples were obtained from 64 (74%) patients to confirm the diagnosis of HB and to test for evidence of coinfection with the delta agent.

Of the 86 cases, 56 (65%) were among males. Sixty-five (76%) were black; 20 (23%) were white; and one was Asian. Ages ranged from 9 months to 54 years (median 26 years). Forty-six (61%) of 76 patients on whom detailed data were obtained were known PDAs; six others were sexual contacts or infants of PDAs; and four were males who had had (or were suspected of having had) sexual relations with another male. Of 33 reporting self-injection of drugs within the last 6 months, 30 (91%) admitted sharing intravenous (IV) needles, and 20 (61%) reported recently injecting cocaine. Other drugs injected included methamphetamine, heroin, hydromorphone, and phenmetrazine. None reported using 3,4-methylene diamphetamine (MDA), a drug implicated in fulminant HB deaths among PDAs in North Carolina in 1979 (*1*). Of 47 persons assayed, seven (15%) had markers for delta virus exposure. All seven with delta virus infection were PDAs. Ninety-six percent of the patients had lived in Durham over 10 years; the majority were employed. Fifty-three percent resided within a 1-mile radius of downtown Durham; in this area, the HB attack rate for 1985 was 365/100,000 persons in the 15- to 49-year age group, compared with national attack rates of 17/100,000 persons in the same age group (*2*).

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Editorial Note: Many HB outbreaks have been described among PDAs over the last 2 decades, and serologic surveys have demonstrated that HB virus (HBV) infection is highly prevalent in this group (*1,3-7*). More recently, combined HBV and delta virus infection has been recognized to cause hepatitis outbreaks with unusually high mortality in PDAs (*7*). Com-

Hepatitis B — Continued

bined HBV-delta virus infection (either coinfection with both viruses or delta superinfection of HBV carriers) is associated with higher frequency of fulminant hepatitis than HBV infection alone. Delta superinfection of HBV carriers frequently causes transformation from no or mild chronic liver disease to severe, progressive chronic active hepatitis. In the United States, infection with the delta agent has been observed previously among persons with frequent blood and blood-product exposures, i.e., PDAs and hemophiliacs. PDAs can serve as a source of HB and delta agent infections that can disseminate to lesser-risk groups, e.g., sexual contacts and health-care workers (*7*). In the United States, although only 10%-15% of persons reported with HB infection have been identified as PDAs, control of HB among PDAs and persons in other risk groups is critical for limiting the spread of HB and delta agent in the general population.

Control of HB outbreaks among PDAs has proven difficult. In previous outbreaks, several strategies have been tried, including public education programs, tracking and identification of contacts, and, in one instance, an HB vaccine campaign. An HB vaccine program attempted among PDAs during a large outbreak of HB and delta hepatitis in Worcester, Massachusetts, had limited success, principally due to a lack of perceived danger among otherwise healthy PDAs and the lack of patient compliance in completing vaccination (*8*). The highly publicized program offered free serologic testing and vaccinations to PDAs and their regular sexual contacts at local community clinics and to PDAs attending drug abuse clinics or undergoing incarceration. During this ongoing project, only 27% of the approximately 300 participants were susceptible to HB, including only 5% of PDAs who had used parenteral drugs for longer than 5 years and who represented the majority of participants. Of HB-susceptible PDAs, only 58% and 31% returned to receive the second and third vaccine doses, respectively. Because Worcester has a large PDA population and an overall population of 160,000, the successful vaccination of a relatively small number of susceptible PDAs has not visibly affected the course of the outbreak.

Because of difficulty in delivering HB vaccine to PDAs, other control tactics have been suggested (*9*). Educational efforts directed at behavior modification, including avoidance of parenteral drug abuse, or at least avoidance of sharing IV needles, are presently being mounted in Durham County. Because HB is also a sexually transmitted disease, sexual behaviors need to be emphasized also to help PDAs minimize their number of sexual partners, to use appropriate barrier methods, and to encourage their partners to seek HB vaccination. A program to vaccinate susceptible PDAs in Durham County is also being considered.

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Acute Respiratory Illness Following Occupational Exposure to Wood Chips — Ohio

The inhalation of organic dust contaminated with microbes has been recognized as an occupational hazard for persons who work with decomposing vegetable matter (*1-6*). An outbreak of illness caused by such inhalation occurred in Ohio in 1983. The investigation that followed is described below.

On June 21, 1983, five employees at a municipal golf course became ill with an influenza-like syndrome within hours after manually unloading a trailer truck full of wood chips. Physicians from the city health department examined and tested all golf-course employees who had helped in the unloading and requested assistance from the National Institute for Occupational Safety and Health in evaluating the outbreak (*7*). On June 24, a questionnaire was administered to those employees exposed to wood chips, and their medical records were reviewed. The investigators inspected the unloaded wood chips, collected samples, and interviewed the wood chips' vendor.

The wood chips were brought to the golf course in an enclosed, 40-foot trailer. Eleven employees participated in some aspect of the unloading process. Although fresh chips had been ordered, the vendor included old chips that had been stored in the front of the truck for approximately 1 year. Unloaded chips from the front were grossly moldy, and cultures revealed a wide variety of mesophilic and thermophilic bacteria and fungi.

A case was defined as the presence in an employee of at least five of the following six symptoms after exposure to the wood chips: malaise, fever, difficulty breathing, chest tightness, headache, and cough. Except for cough, which was reported by two persons who did not meet the case definitions, each symptom was reported more frequently by ill persons than by well persons ($p < 0.05$) (Table 1).

All five ill employees had worked in very dusty conditions without respiratory protection while unloading the front of the trailer on the afternoon of June 21. The time from beginning of unloading until onset of illness ranged from 4 hours to 16 hours (median 13 hours). None of the workers were hospitalized, but one reported to a local emergency room, and two were too ill to work the following day. Within 48 hours, symptoms were very much improved; within 72 hours, all affected workers had completely recovered.

The other six employees included three who had unloaded fresh chips from the back of the trailer on the morning of June 21, one supervisor who had briefly checked on the unloading process, and two workers who finished unloading the front of the trailer on the morning of June 22 but wore air-purifying respirators. Thus, all five workers who had unloaded the moldy wood chips without respiratory protection became ill, compared with none of the other six workers.

TABLE 1. Symptoms reported by ill and well golf-course employees following exposure to wood chips — Ohio

Symptoms	Ill employees (n = 5)	Well employees (n = 6)
Weakness, feeling tired	5	2
Cough	4	2
Difficulty breathing	5	0
Fever	5	0
Chest tightness	5	0
Headaches	5	0

Acute Respiratory Illness – Continued

The mean total white blood count in ill workers (11,000) was significantly higher than in those who remained well (8,100); a significantly greater mean absolute polymorphonuclear leukocyte count was also found among the ill (ill: 8,300, well: 5,600) ($p = 0.008$). The erythrocyte sedimentation rate was elevated in all five ill workers but in only two of the six who did not become ill. Except for one individual who had radiographic changes due to previous surgery, all those who became ill had normal chest radiographs and spirometry. Furthermore, none had positive tests for precipitating antibodies against a standard panel of 11 antigens associated with hypersensitivity pneumonitis extracts of three types of wood chips and 12 microbial organisms isolated from the wood chips (*8*). Tests for complement fixing antibodies as evidence of histoplasmosis produced low titers in both the acute and convalescent sera of the ill workers.

On the basis of clinical and epidemiologic evidence, the investigators concluded that this episode probably represented an outbreak of self-limited, acute toxic reaction associated with inhalation of large amounts of dust heavily contaminated with microbial toxins from decomposing vegetable matter.

(Continued on page 489)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	30th Week Ending			Cumulative, 30th Week Ending		
	July 26, 1986	July 27, 1985	Median 1981-1985	July 26, 1986	July 27, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	301	194	N	7,074	4,290	N
Aseptic meningitis	360	300	300	3,468	3,106	3,201
Encephalitis: Primary (arthropod-borne & unspec.)	29	27	34	484	566	570
Post-infectious	3	2	1	62	83	58
Gonorrhea: Civilian	19,327	19,870	19,870	483,732	495,299	506,178
Military	333	552	474	9,037	12,111	13,591
Hepatitis: Type A	408	412	415	12,387	12,242	12,242
Type B	544	458	454	14,628	14,372	13,424
Non A, Non B	57	75	N	2,009	2,348	N
Unspecified	72	99	146	2,685	3,244	4,120
Legionellosis	19	21	N	344	401	N
Leprosy	9	2	2	163	211	146
Malaria	34	40	29	533	536	536
Measles: Total*	158	39	36	4,608	2,123	2,098
Indigenous	157	33	N	4,386	1,795	N
Imported	1	6	N	222	328	N
Meningococcal infections: Total	39	50	38	1,632	1,564	1,838
Civilian	39	50	38	1,630	1,558	1,835
Military	-	-	-	2	6	8
Mumps	224	36	36	2,940	2,040	2,277
Pertussis	64	85	44	1,478	1,111	1,111
Rubella (German measles)	30	27	27	355	438	718
Syphilis (Primary & Secondary): Civilian	556	684	622	14,438	15,248	17,153
Military	3	2	10	102	112	227
Toxic Shock syndrome	8	11	N	203	228	N
Tuberculosis	551	511	511	12,233	12,049	13,221
Tularemia	10	7	8	64	97	128
Typhoid fever	5	20	10	152	190	210
Typhus fever, tick-borne (RMSF)	45	19	55	395	348	596
Rabies, animal	42	140	126	3,087	3,032	3,675

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Mo. 1)	21
Botulism: Foodborne	5	Plague	4
Infant	28	Poliomyelitis, Paralytic	-
Other	1	Psittacosis (Mich. 2, Ky. 1)	53
Brucellosis (Tenn. 1)	38	Rabies, human	-
Cholera	-	Tetanus	30
Congenital rubella syndrome	2	Trichinosis	20
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murine) (Fla. 1)	23
Diphtheria	-		

*One of the 158 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 26, 1986 and July 27, 1985 (30th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel-losis	Leprosy
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	7,074	360	484	62	483,732	495,299	408	544	57	72	19	163
NEW ENGLAND	314	21	14	3	11,591	13,499	10	28	2	8	-	6
Maine	12	4	-	-	519	600	-	3	-	-	-	-
N H	6	1	2	-	297	308	-	1	1	-	-	-
Vt	3	-	2	2	158	170	-	-	-	-	-	-
Mass	184	4	3	-	4,831	5,139	4	10	1	8	-	6
R I	18	9	-	-	971	1,038	1	4	-	-	-	-
Conn	111	3	7	1	4,815	6,244	5	10	-	-	-	-
MID ATLANTIC	2,684	17	65	6	83,143	72,108	16	42	2	15	1	11
Upstate N Y	234	6	24	4	9,649	9,387	4	19	2	1	-	1
N Y City	1,825	7	14	-	49,292	36,785	2	5	-	11	1	9
N J	444	4	10	-	10,572	10,971	10	18	-	3	-	-
Pa	181	-	17	2	13,630	14,965	-	-	-	-	-	1
E N CENTRAL	444	100	120	9	64,641	66,245	16	34	2	6	5	4
Ohio	100	12	37	2	16,671	16,727	6	12	1	1	3	-
Ind	42	56	25	3	6,802	7,065	4	5	-	2	-	-
Ill	206	15	23	3	18,266	17,801	3	1	-	-	-	3
Mich	78	17	30	1	20,308	18,479	3	16	1	3	2	1
Wis	18	-	5	-	2,594	6,173	-	-	-	-	-	-
W N CENTRAL	131	24	14	8	21,408	22,825	8	19	3	-	2	2
Minn	47	2	7	-	2,975	3,288	5	1	2	-	-	1
Iowa	10	2	6	-	2,099	2,480	-	2	1	-	-	-
Mo	47	8	-	-	10,966	10,879	-	9	-	-	-	-
N Dak	2	-	-	-	187	156	-	-	-	-	-	-
S Dak	1	6	-	-	438	422	-	1	-	-	-	-
Nebr	6	3	-	1	1,537	1,998	3	1	-	-	-	-
Kans	18	3	1	7	3,206	3,602	-	5	-	-	2	1
S ATLANTIC	867	54	67	21	120,224	128,184	40	123	13	9	5	1
Del	14	-	4	-	1,998	2,305	-	2	-	-	-	-
Md	100	4	19	1	14,355	16,488	4	21	1	-	2	-
D C	119	-	-	-	9,410	8,546	-	2	-	1	-	-
Va	96	11	21	1	10,360	10,638	2	10	1	-	-	1
W Va	5	5	11	-	1,299	1,428	2	8	1	-	-	-
N C	39	14	10	1	19,916	19,588	-	19	8	1	1	-
S C	21	3	-	-	11,191	12,446	-	9	-	1	-	-
Ga	138	1	-	1	15,862	25,663	2	19	-	1	1	-
Fla	335	16	2	17	35,833	31,102	30	33	2	5	1	-
E S CENTRAL	96	46	31	3	39,858	40,718	9	45	7	-	-	1
Ky	18	17	12	1	4,436	4,650	3	10	3	-	-	-
Tenn	53	2	3	1	15,364	16,197	-	9	-	-	-	1
Ala	15	27	15	1	11,416	12,661	1	24	4	-	-	-
Miss	10	-	1	-	8,642	7,210	5	2	-	-	-	-
W S CENTRAL	470	32	62	3	59,109	62,750	47	43	2	17	1	12
Ark	21	1	-	-	5,486	6,124	2	7	-	-	-	-
La	90	3	3	-	10,482	12,267	1	6	-	-	1	1
Okla	27	6	13	-	6,641	6,645	9	6	2	-	-	-
Tex	332	22	46	3	36,500	37,714	35	24	-	17	-	11
MOUNTAIN	197	7	18	1	14,584	15,248	50	52	9	3	-	11
Mont	4	1	-	1	420	418	9	1	-	-	-	-
Idaho	2	-	-	-	485	481	2	1	-	-	-	-
Wyo	4	-	2	-	335	373	-	-	-	-	-	-
Colo	100	2	3	-	3,792	4,623	-	3	-	1	-	3
N Mex	11	-	2	-	1,463	1,759	15	11	3	-	-	-
Ariz	48	-	8	-	4,675	4,401	17	17	5	2	-	5
Utah	10	-	2	-	622	660	5	4	-	-	-	1
Nev	18	4	1	-	2,792	2,533	2	15	1	-	-	2
PACIFIC	1,871	59	93	8	69,174	73,722	212	158	17	14	5	115
Wash	82	5	10	-	5,178	5,238	32	36	3	4	1	13
Oreg	35	-	-	-	2,741	3,528	58	7	2	2	-	-
Calif	1,720	47	81	8	58,824	62,186	122	115	12	8	4	80
Alaska	9	3	2	-	1,632	1,744	-	-	-	-	-	-
Hawaii	25	4	-	-	799	1,026	-	-	-	-	-	22
Guam	-	-	-	-	101	118	-	-	-	-	-	1
P R	58	1	3	-	1,299	2,030	1	6	2	3	-	7
V I	2	-	-	-	139	290	-	-	-	-	-	-
Pac. Trust Terr	-	-	-	-	220	574	3	1	-	-	-	25
Amer Samoa	-	-	-	-	30	-	1					1

N Not notifiable U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 26, 1986 and July 27, 1985 (30th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
UNITED STATES	533	187	4,386	1	222	2,123	1,632	224	2,940	64	1,478	1,111	30	355	438
NEW ENGLAND	29	4	76	-	6	119	117	-	49	6	97	55	-	9	10
Maine	1	2	12	-	-	-	23	-	-	-	2	4	-	-	-
N.H.	1	1	37	-	-	-	6	-	13	-	46	25	-	1	2
Vt.	1	-	-	-	-	-	15	-	2	-	3	2	-	1	-
Mass.	15	1	24	-	5	112	26	-	6	4	27	10	-	4	6
R.I.	4	-	2	-	-	-	15	-	9	2	3	8	-	2	-
Conn.	7	-	1	-	1	7	32	-	19	-	16	6	-	1	2
MID. ATLANTIC	58	40	1,382	-	20	183	265	3	123	5	116	79	-	30	181
Upstate N.Y.	22	2	43	-	19	82	89	1	50	3	77	42	-	22	17
N.Y. City	12	38	441	-	1	54	53	-	5	-	3	9	-	5	141
N.J.	7	-	876	-	-	24	29	-	31	-	9	3	-	3	11
Pa.	17	-	22	-	-	23	94	2	37	2	27	25	-	-	12
E.N. CENTRAL	31	18	779	-	18	498	215	203	1,974	-	204	198	2	27	23
Ohio	8	-	-	-	10	49	89	-	96	-	82	25	-	-	-
Ind.	2	-	11	-	-	55	16	-	29	-	22	11	-	-	-
Ill.	10	15	488	-	3	283	57	197	1,434	-	26	27	1	19	8
Mich.	10	3	48	-	-	52	49	6	238	-	23	22	1	6	14
Wis.	1	-	232	-	5	59	4	-	177	-	51	113	-	2	1
W.N. CENTRAL	18	8	273	-	17	10	83	3	80	11	90	78	-	10	19
Minn.	5	-	43	-	4	5	18	-	1	4	37	20	-	-	2
Iowa	1	8	86	-	1	-	11	1	20	-	11	5	-	1	1
Mo.	6	-	25	-	6	2	28	-	15	-	5	17	-	1	7
N. Dak.	-	-	25	-	1	2	-	-	3	-	3	9	-	1	2
S. Dak.	-	-	-	-	-	-	4	-	1	-	13	1	-	-	-
Nebr.	4	-	-	-	-	-	9	-	-	-	-	4	-	-	-
Kans.	2	-	94	-	5	1	15	2	40	7	21	22	-	7	7
S. ATLANTIC	69	55	493	-	52	225	313	1	142	28	511	214	1	10	43
Del.	1	-	1	-	-	-	2	-	-	-	222	-	-	-	1
Md.	12	-	20	-	9	60	44	1	13	24	123	92	-	-	3
D.C.	-	-	-	-	1	3	4	-	-	-	-	1	-	-	-
Va.	14	-	33	-	24	22	52	-	27	-	20	5	-	-	2
W. Va.	4	-	2	-	-	33	3	-	36	-	10	1	-	-	9
N.C.	4	-	2	-	1	9	51	-	14	3	30	12	-	-	-
S.C.	5	-	274	-	-	-	28	-	11	-	5	-	-	-	3
Ga.	6	-	75	-	14	8	47	-	14	1	80	65	-	-	-
Fla.	23	55	86	-	3	90	82	-	27	-	21	38	1	10	25
E.S. CENTRAL	14	4	59	-	2	2	94	2	23	1	25	17	1	2	2
Ky.	4	3	3	-	-	-	23	2	5	1	2	3	1	2	2
Tenn.	-	1	54	-	1	1	34	-	15	-	6	5	-	-	-
Ala.	6	-	-	-	1	-	26	-	2	-	17	6	-	-	-
Miss.	4	-	2	-	-	1	11	-	1	-	-	3	-	-	-
W.S. CENTRAL	44	11	572	-	33	372	136	1	140	4	103	173	2	55	28
Ark.	-	-	278	-	2	-	19	-	-	-	7	12	-	-	1
La.	5	1	4	-	-	42	17	-	2	-	6	8	-	-	-
Okla.	8	5	34	-	2	1	19	N	N	4	62	102	-	-	1
Tex.	31	5	258	-	29	329	81	1	131	-	28	51	2	55	26
MOUNTAIN	21	3	286	-	26	485	80	4	196	1	148	76	-	20	4
Mont.	-	-	-	-	8	137	8	-	5	-	7	5	-	2	-
Idaho	1	-	1	-	-	134	2	-	4	-	31	5	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo.	7	-	2	-	5	6	13	-	11	-	41	30	-	1	-
N. Mex.	2	3	29	-	7	3	6	N	N	-	16	9	-	-	2
Ariz.	7	-	247	-	6	205	16	2	162	-	30	18	-	2	1
Utah	2	-	6	-	-	-	9	1	10	1	19	9	-	12	-
Nev.	2	-	1	-	-	-	24	1	4	-	3	-	-	3	-
PACIFIC	249	14	486	1	48	229	329	7	213	8	184	221	24	192	128
Wash.	18	8	131	1 †	26	41	49	-	7	1	61	35	3	11	11
Oreg.	15	-	2	-	4	3	22	N	N	-	9	21	-	1	1
Calif.	216	6	314	-	17	167	247	5	190	6	105	135	21	176	74
Alaska	-	-	-	-	-	-	9	1	6	-	2	27	-	-	1
Hawaii	-	-	19	-	1	18	2	1	10	1	7	3	-	4	41
Guam	1	-	4	-	1	11	-	-	4	-	-	-	-	2	2
P.R.	4	-	33	-	-	48	2	-	20	-	9	7	-	58	23
V.I.	-	-	-	-	-	10	-	1	13	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	-	5	-	-	-	-	-	-
Amer. Samoa	-	-	2	-	-	-	-	-	1	-	-	-	-	1	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 26, 1986 and July 27, 1985 (30th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	14,438	15,248	8	12,233	12,049	64	152	395	3,087
NEW ENGLAND	290	307	1	367	407	-	9	5	3
Maine	15	9	-	30	30	-	-	-	-
N H	10	7	-	10	15	-	-	-	-
Vt	6	3	-	12	4	-	-	-	-
Mass	152	161	1	181	248	-	7	2	-
R I	16	7	-	27	32	-	-	2	1
Conn	91	120	-	107	78	-	2	1	2
MID ATLANTIC	2,091	1,981	-	2,483	2,238	1	15	11	362
Upstate N Y	98	140	-	357	369	-	2	3	45
N Y City	1,188	1,231	-	1,299	1,127	-	7	4	-
N J	387	393	-	435	302	1	5	1	11
Pa	418	217	-	392	440	-	1	3	306
E N CENTRAL	605	654	2	1,468	1,465	-	12	48	73
Ohio	76	88	2	247	276	-	2	46	5
Ind	67	61	-	155	180	-	1	-	12
Ill	329	340	-	642	633	-	2	1	23
Mich	99	127	-	354	291	-	5	1	16
Wis	34	38	-	70	85	-	2	-	17
W N CENTRAL	137	134	1	349	318	19	6	22	503
Minn	24	28	-	89	62	-	1	1	60
Iowa	6	15	1	29	41	1	-	1	115
Mo	75	66	-	173	150	15	5	9	55
N Dak	2	2	-	4	3	-	-	-	112
S Dak	2	4	-	16	18	2	-	4	101
Nebr	11	6	-	6	13	1	-	3	19
Kans	17	13	-	32	31	-	-	4	41
S ATLANTIC	4,191	4,402	1	2,353	2,450	8	19	177	718
Del	31	20	-	26	24	-	-	1	-
Md	255	233	-	170	218	2	5	18	364
D C	180	201	-	79	101	-	2	-	-
Va	216	173	-	194	220	2	5	25	110
W Va	13	9	-	69	65	-	2	6	17
N C	299	394	-	334	307	1	2	60	4
S C	393	448	-	303	317	-	-	50	36
Ga	637	772	-	354	397	3	-	16	107
Fla	2,167	2,152	1	824	801	-	3	1	80
E S CENTRAL	970	1,196	-	1,068	1,079	6	1	53	187
Ky	47	36	-	253	241	2	-	11	56
Tenn	367	349	-	310	317	3	-	22	56
Ala	316	391	-	340	332	1	-	12	54
Miss	240	420	-	165	189	-	1	8	1
W S CENTRAL	3,037	3,537	3	1,579	1,486	27	12	72	474
Ark	154	187	1	196	163	17	-	2	111
La	512	614	-	266	195	1	-	-	14
Okla	84	97	-	148	158	6	1	60	39
Tex	2,287	2,639	2	969	950	3	11	10	310
MOUNTAIN	346	417	-	276	324	2	8	7	448
Mont	6	2	-	16	46	-	1	4	156
Idaho	7	3	-	11	15	-	-	-	1
Wyo	-	6	-	-	5	-	-	1	208
Colo	86	101	-	22	40	-	1	2	4
N Mex	46	72	-	58	60	1	-	-	4
Ariz	144	208	-	132	130	-	3	-	72
Utah	9	4	-	20	6	1	2	-	1
Nev	48	21	-	17	22	-	1	-	4
PACIFIC	2,771	2,620	-	2,290	2,302	1	70	-	339
Wash	52	73	-	115	125	-	3	-	2
Oreg	63	50	-	79	79	-	-	-	-
Calif	2,632	2,452	-	1,946	1,919	-	63	-	329
Alaska	1	2	-	33	66	1	1	-	8
Hawaii	23	43	-	117	113	-	3	-	-
Guam	1	2	-	32	28	-	-	-	-
P R	446	450	-	165	198	-	4	-	28
V I	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	164	80	-	35	38	-	39	-	-
Amer Samoa	-	-	-	3	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending July 26, 1986 (30th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	631	431	114	49	18	19	38
Boston, Mass	171	109	32	17	4	9	15
Bridgeport, Conn	37	27	6	2	2	-	1
Cambridge, Mass	29	21	6	2	-	-	3
Fall River, Mass	26	20	4	2	-	-	-
Hartford, Conn	75	48	14	5	4	4	5
Lowell, Mass	31	20	6	4	-	1	1
Lynn, Mass	22	18	3	1	-	-	-
New Bedford, Mass	29	25	2	1	1	-	1
New Haven, Conn	50	30	12	5	2	1	3
Providence, R.I.	22	17	4	-	-	1	1
Somerville, Mass	5	3	1	1	-	-	-
Springfield, Mass	55	41	9	1	2	2	1
Waterbury, Conn	40	29	7	3	1	-	6
Worcester, Mass	39	23	8	5	2	1	1
MID ATLANTIC	2,393	1,550	521	210	64	48	119
Albany, N.Y.	33	23	4	2	1	3	1
Allentown, Pa	19	12	4	2	1	-	-
Buffalo, N.Y.	131	88	28	7	4	4	4
Camden, N.J.	33	23	6	2	1	1	-
Elizabeth, N.J.	24	19	4	1	-	-	-
Erie, Pa †	31	23	6	2	-	-	3
Jersey City, N.J.	28	20	6	2	-	-	-
N.Y. City, N.Y.	1,250	762	281	142	39	26	58
Newark, N.J.	49	22	13	9	3	2	3
Paterson, N.J.	22	13	5	3	1	-	1
Philadelphia, Pa §	340	232	77	23	3	5	16
Pittsburgh, Pa †	63	44	13	3	-	3	1
Reading, Pa	31	22	8	1	-	-	1
Rochester, N.Y.	125	92	22	3	5	3	23
Schenectady, N.Y.	25	19	5	-	1	-	1
Scranton, Pa †	32	20	10	1	1	-	3
Syracuse, N.Y.	74	54	14	2	3	1	2
Trenton, N.J.	21	13	4	3	1	-	1
Utica, N.Y.	21	17	4	-	-	-	-
Yonkers, N.Y.	41	32	7	2	-	-	1
E.N. CENTRAL	2,291	1,454	510	172	71	84	66
Akron, Ohio	74	50	19	1	1	3	2
Canton, Ohio	37	24	10	2	-	1	2
Chicago, Ill §	584	362	125	45	10	22	16
Cincinnati, Ohio	110	68	27	5	2	8	7
Cleveland, Ohio	147	90	30	15	4	8	1
Columbus, Ohio	175	102	38	17	6	12	1
Dayton, Ohio	93	47	26	14	1	5	2
Detroit, Mich	277	157	69	29	16	6	5
Evansville, Ind	42	30	6	4	-	2	2
Fort Wayne, Ind	62	44	13	4	1	-	6
Gary, Ind	15	6	4	5	-	-	-
Grand Rapids, Mich	52	33	15	-	1	3	-
Indianapolis, Ind	164	101	37	10	12	4	3
Madison, Wis	47	27	9	6	4	1	4
Milwaukee, Wis	127	97	19	5	2	4	3
Peoria, Ill	47	33	11	-	2	1	1
Rockford, Ill	48	34	11	1	2	-	2
South Bend, Ind	47	35	8	2	2	-	5
Toledo, Ohio	101	74	18	4	4	1	4
Youngstown, Ohio	62	40	15	3	1	3	-
W.N. CENTRAL	675	480	105	48	20	22	24
Des Moines, Iowa	77	54	16	5	1	1	2
Duluth, Minn	23	17	5	-	1	-	2
Kansas City, Kans	16	9	2	1	1	3	1
Kansas City, Mo	119	84	18	10	4	3	5
Lincoln, Nebr	31	24	4	3	-	-	-
Minneapolis, Minn	68	57	6	2	2	1	1
Omaha, Nebr	75	37	20	9	2	7	3
St. Louis, Mo	133	103	11	10	4	5	6
St. Paul, Minn	74	51	13	6	4	-	-
Wichita, Kans	59	44	10	2	1	2	4
S. ATLANTIC	1,207	721	272	111	49	52	46
Atlanta, Ga	173	110	32	17	6	8	1
Baltimore, Md	203	122	45	18	8	10	10
Charlotte, N.C.	81	49	19	6	4	3	4
Jacksonville, Fla	94	62	20	3	7	2	9
Miami, Fla	105	67	28	8	-	2	-
Norfolk, Va	49	21	14	8	1	5	1
Richmond, Va	75	41	18	4	5	7	4
Savannah, Ga	57	39	11	3	3	1	5
St. Petersburg, Fla	88	67	14	3	2	2	5
Tampa, Fla	70	42	16	3	4	3	3
Washington, D.C. §	186	96	45	37	9	9	4
Wilmington, Del	26	15	10	1	-	-	-
E.S. CENTRAL	737	455	171	55	28	30	23
Birmingham, Ala	111	62	30	8	5	6	2
Chattanooga, Tenn	61	40	14	3	1	3	3
Knoxville, Tenn	88	53	17	10	5	3	4
Louisville, Ky	102	63	22	11	4	2	2
Memphis, Tenn §	157	94	37	11	7	8	8
Mobile, Ala	80	40	14	2	1	3	-
Montgomery, Ala	37	20	12	1	1	3	-
Nashville, Tenn	121	83	25	9	2	2	4
W.S. CENTRAL	1,471	828	374	152	56	61	42
Austin, Tex	75	46	12	15	1	1	3
Baton Rouge, La	40	27	8	4	1	-	2
Corpus Christi, Tex	48	30	10	4	1	3	-
Dallas, Tex	195	99	51	23	10	12	3
El Paso, Tex	52	20	17	8	5	2	2
Fort Worth, Tex	101	63	18	9	7	4	5
Houston, Tex	418	222	121	43	12	20	7
Little Rock, Ark	83	48	24	4	2	5	7
New Orleans, La	133	82	30	13	6	2	-
San Antonio, Tex	164	81	42	21	10	10	7
Shreveport, La	85	59	18	5	1	2	1
Tulsa, Okla	77	51	23	3	-	-	5
MOUNTAIN	570	352	112	60	30	15	15
Albuquerque, N.Mex	74	43	13	9	7	2	2
Colo. Springs, Colo	33	21	6	5	1	-	3
Denver, Colo	81	50	15	10	5	1	1
Las Vegas, Nev	82	43	23	12	3	1	5
Ogden, Utah	21	13	4	-	1	3	1
Phoenix, Ariz	132	83	27	14	6	2	2
Pueblo, Colo	17	13	3	1	-	-	-
Salt Lake City, Utah	41	21	6	5	3	5	-
Tucson, Ariz	89	65	15	4	4	1	1
PACIFIC	1,891	1,237	343	182	75	49	84
Berkeley, Calif	18	13	3	2	-	-	1
Fresno, Calif	79	48	16	11	2	2	5
Glendale, Calif	25	21	2	2	-	-	2
Honolulu, Hawaii	65	50	8	5	-	2	3
Long Beach, Calif	122	80	25	10	2	5	9
Los Angeles, Calif	549	345	101	62	29	10	17
Oakland, Calif	69	45	10	9	4	1	3
Pasadena, Calif	27	22	2	1	1	1	1
Portland, Oreg	104	71	17	10	4	2	3
Sacramento, Calif	154	93	29	13	11	7	9
San Diego, Calif	129	87	23	11	6	2	10
San Francisco, Calif	138	89	24	18	2	5	7
San Jose, Calif	184	116	34	17	9	6	17
Seattle, Wash	127	76	31	10	4	6	2
Spokane, Wash	56	45	10	-	1	-	2
Tacoma, Wash	45	36	8	1	-	-	3
TOTAL	11,866††	7,508	2,522	1,039	409	380	467

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Acute Respiratory Illness — Continued

Reported by P Asmussen, MPH, WL Duff, ER Heidtman, Middletown City Health Dept, CJ Burress, AM Richmond, MD, Middletown Social and Health Center, Ohio; Hazard Evaluations and Technical Assistance Br, Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: In 1975, an apparent toxic pulmonary illness was reported among 10 farmers who became ill several hours after removing moldy silage (*1,2*). The authors of that report referred to the illness as "pulmonary mycotoxicosis" because the etiology presumably involved toxic components of inhaled fungal organisms (*1*). Others have recognized an apparently identical syndrome but have applied other names to it. Thus, it has been variously referred to as (1) "silo unloader's syndrome" to contrast it with silo filler's disease, a toxic pulmonary edema following inhalation of the oxides of nitrogen in freshly filled silos (*3*); (2) "precipitin test negative farmer's lung" to emphasize its clinical similarities to and its pathogenetic differences from farmer's lung disease, an immunologic lung response to microbial antigens in moldy hay (*4*); and (3) "organic dust toxic syndrome" (ODTS), a generic designation to emphasize that mycotoxin exposure is not a necessary prerequisite and that the syndrome is not restricted to either silo exposures or farming occupations. A striking similarity has been recognized between ODTS and "mill fever" in cotton toxtile workers, "grain fever" in grain elevator workers, and "humidifier fever" in building occupants exposed to air from highly contaminated ventilation systems (*3,5*). Similar to the current report, moldy wood chips were etiologically linked to symptoms of ODTS in individuals exposed to dust from wood chips that had been stored in basements as a fuel source for wood-burning furnaces (*6*).

Epidemiologically, ODTS often occurs in small outbreaks, with illness affecting all or most individuals who have had intense exposure to microbially contaminated vegetable dust (*3,9*). The syndrome is clinically characterized as an acute febrile illness with respiratory symptoms; onset usually occurs 4-12 hours after exposure. General malaise, headache, and cough are common symptoms, while dyspnea is variably present. Chest auscultation usually reveals normal breath sounds; the chest x-ray is remarkably clear; and pulmonary function may be only slightly impaired. Leukocytosis with a predominance of polymorphonuclear leukocytes is the rule, and serologic testing for precipitating antibodies associated with farmer's lung disease is usually negative.

With removal from exposure, ODTS is a self-limited illness, occasionally resolving within 24 hours, often within several days, and sometimes only after a few weeks. To date, no deaths have been reported, and there is no evidence for residual pulmonary fibrosis. Some individuals, however, have been hospitalized with severe symptoms, and a few have undergone diagnostic bronchoscopy and lung biopsy. Bronchoalveolar lavage has revealed a predominance of PMNs, and biopsy has demonstrated an acute inflammation without granulomas, as well as an assortment of microorganisms in the airways (*1*).

ODTS probably occurs much more frequently than is currently recognized. Only serious solitary cases or those that occur in suspicious clusters are likely to come to medical attention, and when a history of environmental exposure is elicited, these are often misdiagnosed by physicians as silo filler's disease or farmer's lung disease (*3*). Because the incidence, etiologic agent(s), and pathogenesis of ODTS remain unknown, physicians are encouraged to report to appropriate health authorities any influenza-like illness following intense exposures to organic dust. Based on current understanding, symptomatic treatment alone should suffice. Prevention measures should include storing vegetable matter in a way that limits microbial growth and wearing appropriate respiratory protection when intense exposure to organic dusts cannot be avoided.

Acute Respiratory Illness -- Continued

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Notice to Readers

Release of Botulism Antitoxin

Botulism antitoxin for patients with signs and symptoms of human foodborne or wound botulism is released to physicians by CDC from its quarantine stations located throughout the United States. Any health-care provider requesting botulism antitoxin should first contact his/her state health department. A list of daytime and 24-hour telephone numbers (if available) is published to assist those seeking botulism antitoxin (Table 2). If the state health department is unreachable during nights or on weekends, CDC may be called at (404) 329-2888 (24-hour number)

When botulism is suspected, a careful food history, especially for home-canned vegetables or fruits, should be sought, and the suspected food items, saved. Stool and serum should be obtained from patients with possible botulism and refrigerated. Electromyography should be done using repetitive stimulation at 40 Hz or greater. When indicated, cerebrospinal fluid should be examined for white blood cells and protein, and a Tensilon challenge test should be done. The patient's vital capacity should be monitored. The results of these tests are helpful in evaluating the need for botulism antitoxin.

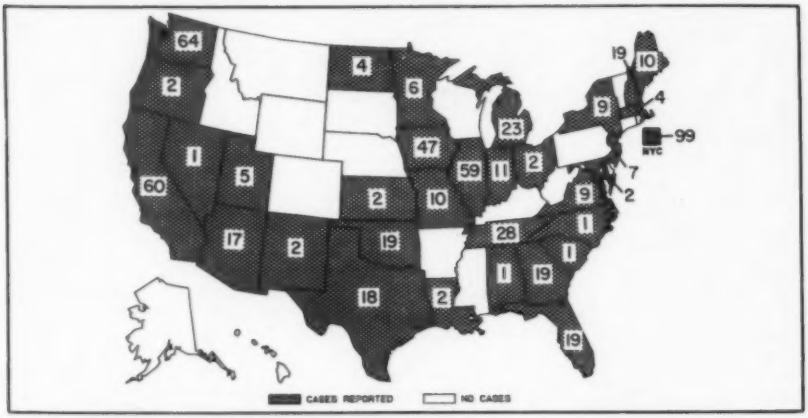
Reported by Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Botulism Antitoxin — Continued

TABLE 2. Telephone numbers for requesting botulism antitoxin

State	Daytime no.	24-hour or night no.	
Alabama	(205) 261-5131	(205) 277-8660	
Alaska	(907) 561-4406		
Arizona	(602) 255-1280		
Arkansas	(501) 661-2597	(501) 661-2136	
California	(415) 540-2566	(415) 540-2308	
Colorado	(303) 331-8330	(303) 370-9395	
Connecticut	(203) 566-2540	(203) 566-4800	
Delaware	(302) 856-5152	(302) 736-4714	
District of Columbia	(202) 673-6757	(202) 727-1000	
Florida	(904) 487-2905		
Georgia	(404) 894-6527		
Hawaii	(808) 548-4580	(808) 247-2191	
Idaho	(208) 334-5941	(208) 334-2241	(out of state)
		(800) 632-8000	(in state)
Illinois	(217) 782-2016	(217) 782-7860	
Indiana	(317) 633-8414	(317) 633-0144	
Iowa	(515) 281-5643	(515) 281-3561	
Kansas	(913) 862-9360	(913) 862-9360	
Kentucky	(502) 564-3418	(502) 564-7078	
Louisiana	(504) 568-5005		
Maine	(207) 289-3591	(800) 821-5821	
Maryland	(301) 225-6677	(301) 243-8700	
Massachusetts	(617) 522-3700	(617) 522-3700	
Michigan	(517) 335-8165	(517) 335-9030	
Minnesota	(612) 623-5414	(612) 623-5414	
Mississippi	(601) 354-6660	(601) 354-6612	
Missouri	(314) 751-8129	(314) 751-2335	
Montana	(406) 444-4740	(406) 444-4740	
Nebraska	(402) 471-2937	(402) 471-2927	
Nevada	(702) 885-4988		
New Hampshire	(603) 271-4477	(800) 852-3345	
New Jersey	(609) 292-7300	(609) 392-2020	
New Mexico	(505) 827-0006	(505) 827-0006	
New York City	(212) 566-7160	(212) 340-4494	
New York State	(518) 474-3186	(518) 465-9720	
North Carolina	(919) 733-3421	(919) 733-4646	
North Dakota	(701) 224-2378	(701) 224-2398	(out of state)
		(800) 472-2180	(in state)
Ohio	(614) 466-0265		
Oklahoma	(405) 271-4060	(405) 271-4060	
Oregon	(503) 229-5792	(503) 229-5599	
Pennsylvania	(717) 787-3350	(717) 737-5349	
Rhode Island	(401) 277-2362	(401) 277-2840	
South Carolina	(803) 758-7970		
South Dakota	(605) 773-3357		
Tennessee	(615) 741-7247	(615) 741-3011	
Texas	(512) 458-7207	(512) 458-7111	
Utah	(801) 538-6191		
Vermont	(802) 863-7240	(802) 863-7240	
Virginia	(804) 786-6261	(804) 786-4000	
Washington	(206) 361-2914	(206) 464-6289	
West Virginia	(304) 348-3530	(304) 744-2678	
Wisconsin	(608) 267-9003	(608) 238-5064	
Wyoming	(307) 777-6018		

FIGURE I. Reported measles cases — United States, weeks 26-29, 1986



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The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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